

WHAT IS CLAIMED IS:

1. A process for preparing aromatic dicarboxylic acids which comprises subjecting an aromatic compound having an alkyl substituent or a partially oxidized alkyl substituent to liquid-phase oxidation with a molecular oxygen-containing gas in a reaction solvent in the presence of a catalyst, then conducting solid-liquid separation of the formed slurry containing crystals of the produced aromatic dicarboxylic acid, and recovering the crystals, wherein in carrying out solid-liquid separation by continuously supplying the said slurry to a screen-type centrifugal separator having a screw conveyor arranged therein, a screen with an opening size that allows partial escape of crystals in the supplied slurry through the screen openings is used as the screen of the screen-type centrifugal separator.

2. The process according to claim 1 wherein a screen with an opening size that allows escape of an amount equivalent to 1 to 10% by weight of crystals in the supplied slurry is used as the screen of the screen-type centrifugal separator.

3. The process according to claim 1 using a screen-type centrifugal separator having an outer rotating cylinder (1), a screw conveyor (2) comprising a cylindrical rotating shaft (21) and a screw (22) and arranged to be capable of relative rotation in said outer rotating cylinder,

and a slurry supply pipe (3) disposed in the inside of the rotating shaft of said screw conveyor and adapted to supply the slurry to the inside of said rotating shaft, said screw conveyor (2) having provided at a part on its proximal end side a slurry supply port (23) for supplying the slurry to the outer rotating cylinder (1), said outer rotating cylinder (1) consisting of a large-diameter portion (11) on the proximal end side, a slant portion (12) gradually reduced in diameter, and a small-diameter portion (13) provided with a screen (13a), said large-diameter portion (11) having formed at its proximal end an overflow port (4), and said small-diameter portion (13) having at its fore end a solid discharge port (5).

4. The process according to claim 3 wherein the inside of rotating shaft (21) of the screw conveyor is partitioned into a slurry supply portion (21a) on the proximal end side and a cleaning fluid supply portion (21b) on the frontal end side, said slurry supply portion (21a) being designed to be capable of supplying the slurry through slurry supply pipe (3), said cleaning fluid supply portion (21b) being designed to be capable of supplying a cleaning fluid to the inside of slurry supply pipe (3) through a cleaning fluid supply pipe (6), and said screw conveyor (2) having provided at a part on its frontal end side a cleaning fluid supply port (24) for supplying the cleaning fluid to

the small-diameter portion (13) of the outer rotating cylinder (1).

5. The process according to claim 1 wherein the residence time for the solid-liquid separation on the screen is set to be 2 to 20 seconds, provided that in case where a cleaning fluid supply port is provided, the residence time is the time after the slurry has passed the cleaning fluid supplied area, and a centrifugal force of 300 to 5,000 G is exerted on the screen.

6. The process according to claim 1 wherein the average grain size of crystals in the slurry is 80 to 160 μm .

7. The process according to claim 6 wherein when the average grain size of crystals in the slurry is B (μm), the opening size of the screen is not less than $(B - 10)$ μm and not more than $(B + 80)$ μm .